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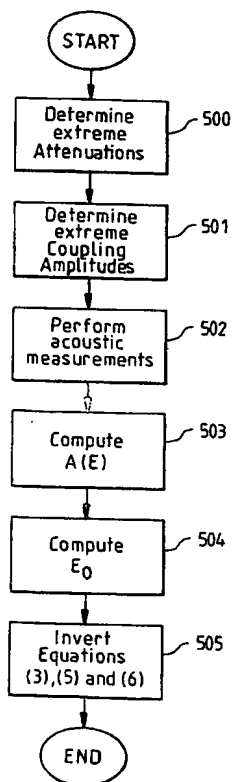
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[Continued on next page]

(54) Title: METHOD FOR CEMENT BOND EVALUATION IN BOREHOLES



(57) Abstract: A method for determining components of a tube casing surrounding a tube uses amplitude measurements of an acoustic signal wavefront emitted inside the tube. The acoustic signal wavefront is affected by the components of the tube casing while propagating in the tube. Various parameters such as an attenuation $A(E)$ of the amplitude inside the tube and a coupling amplitude E_0 may be determined. These parameters may be inserted in equations that are inverted to obtain a percentage of cement bonded ϕ_C in the tube casing, a percentage of cement de-bonded ϕ_D in the tube casing and a percentage of liquid ϕ_W in the tube casing.

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